



Problem Statement Master List

UDOT Research Division

3/27/2013

Group 1 – Materials & Pavements (10)

Number	Title
13-01.01	Evaluation of Internal Cured Concrete for Pavements
13.01.02	Establishing Low Temperature Property Limits for Asphalt Mixtures
13.01.03	Title MOVED TO GROUP 6
13.01.04	Improved Characterization of In-situ Materials Using DCP for Pavement Design Reconnaissance
13.01.05	Investigation of a new paint sampler as well as coated glass beads
13-01.06	Correlation of Laboratory and Field Friction Measurements to Optimize Utilization of Bituminous Surface Aggregates
13-01.07	Evaluation of concrete sealants
13-01.08	Development of a concrete overlay standard specification
13-01.09	Accuracy of In-Situ Water-to-Cement Meters for Concrete
13-01.10	CIR Mix Design Process Binder Content Evaluation
13-01.11	CIR Mix Design Process Performance Mix Design

Group 2 – Maintenance (8)

Number	Title
13-02.01	Compare Natural Colored PCCP to Darker Gray Colored PCCP for Snow Melt Potential
13.02.02	CMP culvert lining using shotcrete technology compared to HDPE slip lining and grouting technology
13.02.03	Deicer Induced Dry Road Slickness
13.02.04	Implementation of Recessed Retroreflective Pavement Markers
13.02.05	Development of Mobile Applications for UDOT Maintenance Phase 2
13-02.06	Implementation of Aerial/Mobile Lidar Technology to Update Highway Feature Inventory
13-02.07	Development of Utah highway maintenance prediction model
13-02.08	Maintenance Costs and Considerations during Geometric Design
13.02.09	Driving Cost Savings Using The Automatic Digital Device

Group 3 – Traffic Management & Safety (20)

Number	Title
13-03.01	Creating a State-wide IHSDM Data Base for Project-Level Safety Analysis
13.03.02	Calibration of HSM SPF and CMF Functions for Curved Highway Segments
13.03.03	Characteristics of High Risk Intersections for Pedestrians and Cyclists-Part 2
13.03.04	Safety Benefits of Converting HOV Lanes to HOT Lanes
13.03.05	Heavy Truck Safety Study
13.03.06	Safest Path Traffic Assignment
13.03.07	Accident Delay Mitigation for UHP, Incident Management and Motorist
13.03.08	Dynamic Left-turn Phasing
13.03.09	Thermo Reactive Pavement Messages
13.03.10	Truck Inclusion Problem at Signalized Intersections
13.03.11	Flashing Yellow Arrow Uses and Signage
13.03.12	Angled Luminaires
13.03.13	Wheel chair detection loops research problem statement
13.03.14	Bicycle Utilization
13.03.15	Innovative Intersection Safety Analysis - An Evaluation of Methodologies
13.03.16	Development of Performance Matrices for Evaluating Innovative Intersections and Interchanges
13.03.17	Calibration of Automatic Performance Measures Speed and Volume Data
13.03.18	Variable Speed Limits (VSL's) in Work Zones
13.03.19	I-15 HOT Lanes Study
13.03.20	Evaluating the Feasibility of Creating Virtual Driving Scenarios Using LiDAR Data for Driving Simulators

Group 4 – Geotechnical (7)

Number	Title
13-04.01	Monitoring for Early Warning of Large Catastrophic Rock Slope Failures
13.04.02	CONDITIONAL FUNDING Probabilistic Liquefaction and Lateral Spread Hazard Mapping for Utah County
13.04.03	Full-Scale Load Test of a Rigid Drilled Concrete Shaft at Honeyville Research Site
13.04.04	Evaluation of Finite Difference Approach to Estimating Consolidation Settlement
13.04.05	Evaluation of Observational Method in Geotechnical Construction and Design
13.04.06	Effect of Pile Head Geometry on Lateral Resistance
13.04.07	POOLED FUND: Simplified SPT Performance-Based Assessment of Liquefaction and Effects

Group 5 – Preconstruction (5)

Number	Title
13.05.01	Evaluation of Cost Savings Associated with CMGC Contracting
13.05.02	Improving UDOT Program Management Business Dynamics
13.05.03	Tacit Knowledge Management
13.05.04	Evaluation of Construction Documentation Procedures
13.05.05	Knowledge Management by Peer Exchange

Group 6 – Planning & Asset Management (7)

Number	Title
13.06.01	Developing a Rubric and Best Practices for Conducting Bicycle Counts
13.06.02	Asset Management 5-yr Plan
13.06.03	Understanding UDOT's Role in Utah's Air Quality Challenges
13.06.04	Algorithm Development for QAQC of Asset Management Data
13.06.05	Innovative Display of Transportation Analysis and Results
13.06.06	SMA Friction Values
13.06.07	Route Advisory For Multi-Modal Routing and Emission Cost Estimation through TravelWise

Group 7 – Transportation Innovation (1)

Number	Title
13.07.03	Precast Concrete Pavements for Urban Intersection Reconstruction
13.07.01	MOVED TO GROUP 3
13.07.02	MOVED TO GROUP 6
13.07.04	MOVED TO GROUP 5

Problem Statement Total= 59